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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,371	06/06/2001	Andreas Leupolz	843/49983	2725

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EXAMINER

COLLINS, TIMOTHY D

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,371

Applicant(s)
LEUPOLZ ET AL.

Examiner

Timothy D Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Note: while the examiner regrets delay in the prosecution of the case, a new piece of art has been found and a new grounds of rejection follows.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3,15,17,18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,391,400 to Russell et al. (herein after called 400).

a. Re claims 1, 18, and 20, 400 discloses applying a heat-reflecting coating with a low thermal emission coefficient (less than .5, as in column 2, at lines 11-24 and more specifically in lines 20-24) to an interior surface of a cabin of an aircraft, in lines 36-40 of column 1, the coating inherently providing improved radiation exchange with a passenger, at least for the reason that it is made of the same materials as the applicants and is coated in the same way. Also as stated in column 2 at lines 5-12 the coating is on interior glass to stop emission and trap heat.

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- b. Re claims 2 and 3, 400 discloses that the coating is a transparent conductive coating of metal oxide, in lines 27-33 of column 21 and in lines 1-3 of the abstract.
- c. Re claim 15, 400 discloses that the coating has a thermal emission coefficient of between .1 and .3, because it states that it is .15 in line 22 of column 2.
- d. Re claim 17, 400 discloses that the interior surface of the airplane cabin comprises glazing and that the coating is on the glazing as seen in lines 19-24 of column 1. The glazing is taken as being the windows and windshield as stated in 400.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4,5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 as above and in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

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e. Re claim 5, 400 may not specifically disclose ITO or selecting a thickness to achieve a desired thermal emission coefficient, however 034 does disclose selecting a thickness of an ITO coating. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 034 into the device of 400 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11. Further it would have been obvious to select a desired thermal emission coefficient, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ2d 1647 (1987).

f. Re claim 6, 400 does not disclose that the thickness of the coating is less than 1 micron, but 034 does disclose this at lines 5-8 of column 5. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 034 into the device of 702 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,731,289 to Coleman (herein after called 289). 289 discloses that aircraft windows are made of PC and it is well known in the art that PMMA is an equivalent to PC. Therefore it would have been obvious to one of ordinary skill in the art to have used PMMA in place of PC for the well known advantages of PMMA, such as it being inexpensively

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bought under the name Plexiglas™. It is noted from the lack of arguments of these, that this is admitted in the previous actions.

6. Claims 7, 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 as applied above in view of USPN 5,976,702 (herein after called 702).

a. Re claims 7 and 21, 400 may not specifically disclose that the coating is on the interior of an aircraft window or that the window is plastic, however 702 does disclose that aircraft windows have the coating on them and it also discloses that aircraft interior surfaces of instrument panels have the coating on them. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 with respect to the interior coating of instrument panels into the windows so as to keep them clean as is the reason for the instrument panel as seen in column 1 at lines 19-24. It is also old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have made the windows out of these materials which are plastic so as to allow them to be durable and cheap to produce as well as light weight. It is also noted from the lack of arguments regarding the aircraft window materials that this is admitted in the previous actions.

b. Re claim 16, 400 may not disclose that the coating is applied to the lateral covering parts, however 702 discloses that the coating is applied to lateral covering parts in lines 19-24 of column 1. This is seen in the statement of the

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coating being applied to other articles. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 into the device of 400 as modified above so as to prevent and limit emission from the interior of the aircraft to the exterior as taught by 400.

c. Re claims 19 and 22, 400 may not disclose that the coating is applied to interior cabin walls however 702 discloses that the coating is applied to an interior cabin wall, in lines 19-24 of column 1, because the instrument panel is an interior cabin wall. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 into the device of 400 as modified above so as to prevent and limit emission from the interior of the aircraft to the exterior as taught by 400.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

d. Re claims 8 and 9, 400 may not disclose that the coating is applied to PMMA or PC or that windows are made of PMMA or of Polycarbonate (PC), however 034 does disclose that ITO coatings are applied to PMMA and PC in line 36 of column 14 and also in line 7 of column 4. Therefore it would have been obvious to one of ordinary skill in the art to have applied the coating to PMMA and PC for the reasons taught in 034. Also it is old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have made the windows out of

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these materials so as to allow them to be durable and cheap to produce as well as light weight.

10. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 in view of USPN 6,092,915 to Rensch (herein after called 915).

a. Re claim 10, 400 as modified does not disclose that the interior of the aircraft has a decorative plastic foil or that the coating is applied to the foil, but 915 does disclose a plastic foil in an aircraft in lines 1-10 of column 3 and also in lines 39-43 of column 1. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 915 into the device of 400 as modified above, so as to allow for the decrease in the emission of heat from the interior of the aircraft as taught by 400.

b. Re claims 11 and 12, 400 as modified may not disclose that the foil is made of PVF or PVDF however 915 does teach of PVF and PVDF, in lines 1-6 of column 3. Therefore it would have been obvious to one of ordinary skill in the art to have made the foil out of these materials so as to make the foil flexible and easy to manufacture as well as to make it durable and shield light sources from view as taught in 915 in the abstract while also keeping the surfaces clean as taught in lines 19-24 of column 1 of 400.

R s p o n s t o A r g u m n t s

11. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection. See rejections above for explanation.


C o n c l u s i o n

12. The following art not cited but made of record all show Low-E coatings.
- a. USPN 6210791
 - b. USPN 6468647
 - c. US 2003/0054127 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D Collins whose telephone number is 703-306-9160. The examiner can normally be reached on M-Th, 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 703-308-2574. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4180.


Timothy D. Collins

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Patent Examiner
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A handwritten signature in black ink, appearing to read 'Peter Poon', with a stylized, elongated horizontal stroke at the end.

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600